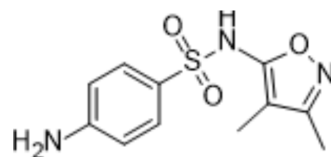


## Sulfisoxazole

Cat. No.:	HY-B0323
CAS No.:	127-69-5
Molecular Formula:	C <sub>11</sub> H <sub>13</sub> N <sub>3</sub> O <sub>3</sub> S
Molecular Weight:	267.3
Target:	Bacterial; Endothelin Receptor; Antibiotic
Pathway:	Anti-infection; GPCR/G Protein
Storage:	Powder    -20°C    3 years 4°C    2 years In solvent   -80°C    2 years -20°C    1 year



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 150 mg/mL (561.17 mM)  
 \* "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		3.7411 mL	18.7056 mL	37.4112 mL
	5 mM		0.7482 mL	3.7411 mL	7.4822 mL
	10 mM		0.3741 mL	1.8706 mL	3.7411 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (9.35 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (9.35 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (9.35 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Sulfisoxazole (Sulfafurazole) is an orally active endothelin receptor antagonist with IC<sub>50</sub> values of 0.60 μM and 22 μM against endothelin receptor A and endothelin receptor B, respectively. Sulfisoxazole is a sulfonamide antibacterial agent with an oxazole substituent. Sulfisoxazole inhibits breast cancer exosome release by targeting endothelin receptor A<sup>[1][2]</sup>.

#### IC<sub>50</sub> & Target

ET <sub>A</sub> 0.60 μM (IC <sub>50</sub> )	ET <sub>B</sub> 22 μM (IC <sub>50</sub> )
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## In Vitro

Sulfisoxazole (0-100  $\mu$ M) inhibits the secretion of sEV in three representative human breast cell lines: MCF10A (normal), MCF7 (weakly invasive), and MDA-MB231 (highly invasive)<sup>[2]</sup>.  
Sulfisoxazole (200  $\mu$ M, 48 h) together with  $\alpha$ PD-L1 recovers the activity of CD8+ cytotoxic T cells by inhibiting secretion of cancer cell (MDA-MB-231) exosomal PD-L1<sup>[3]</sup>.  
Sulfisoxazole (100  $\mu$ M, 72 h) inhibits the LPS induced elevation of nitric oxide and the reduction in GABA-containing neurones in a primary rat retinal culture<sup>[4]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.  
Western Blot Analysis<sup>[1]</sup>

Cell Line:	MDA-MB-231 cell
Concentration:	100 $\mu$ M
Incubation Time:	24 h
Result:	Reduced the expression of Rab27a.

## In Vivo

Sulfisoxazole (p.o., 200 mg/kg, 14 days) inhibits tumor growth in mouse 4T1 breast cancer xenografts and female nude mice orthotopically implanted with MDA-MB231 cells<sup>[2]</sup>.  
Sulfisoxazole (p.o., 200 mg/kg) together with  $\alpha$ PD-L1 (5 mg/kg, i.p.) reduces the tumor growth rate in CT26 tumor-bearing mice, and boosts the antitumor effect of  $\alpha$ PD-1<sup>[3]</sup>.  
Sulfisoxazole (5  $\mu$ L of 400  $\mu$ M, injected into the vitreous humour of the ischemic eye) shows neuroprotection effect to the retina of rats with ischemia/reperfusion<sup>[4]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Chemosphere. 2023 Oct 3;344:140353.
- Biology (Basel). 2021, 10(8), 700.

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## REFERENCES

- [1]. Shin JM, et al. Sulfisoxazole Elicits Robust Antitumour Immune Response Along with Immune Checkpoint Therapy by Inhibiting Exosomal PD-L1. Adv Sci (Weinh). 2022 Feb;9(5):e2103245.
- [2]. Syed H, et al. Sulfisoxazole, an endothelin receptor antagonist, protects retinal neurones from insults of ischemia/reperfusion or lipopolysaccharide. Neurochem Int. 2006 Jun;48(8):708-17.
- [3]. Chan, M.F., et al., Identification of a new class of ETA selective endothelin antagonists by pharmacophore directed screening. Biochem Biophys Res Commun, 1994. 201(1): p. 228-34.
- [4]. Im EJ, et al. Sulfisoxazole inhibits the secretion of small extracellular vesicles by targeting the endothelin receptor A. Nat Commun. 2019 Mar 27;10(1):1387.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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